

Upper Perk Tech Pulse

Keeping You Informed on UPSD Technology

Special points of interest:

- The proper way to shut down
- Processed 2,000 1:1 devices
- iBoss Web Filter
- “Unified” Voicemail
- All new wireless for the High School
- Website reminders

The purpose of this newsletter is to keep everyone informed of the goings-on of Technology in Upper Perkiomen School District. Each month the status of projects and challenges will be updated and any new changes will be announced. We hope you find it informative and beneficial!



Back to School!

The Summer of 2017 was as busy as ever! In addition to the processing of nearly 2,000 1:1 devices, we also upgraded the web filter, replaced the phone system, refreshed two business labs in the High School, upgraded our internet connection, and upgraded the wireless at the High School to the latest standard. Oh, and we did a little something with the website too.

Those were the major projects, but countless smaller tasks were tackled too. We inspected every copier, simplified the Outlook Web App login, and went through every iPad and Chromebook at the Elementary schools to name a few.

Of course with all of those improvements there are bound to be some unexpected challenges. We were very careful in planning all of the projects, but there are always more variables than can be

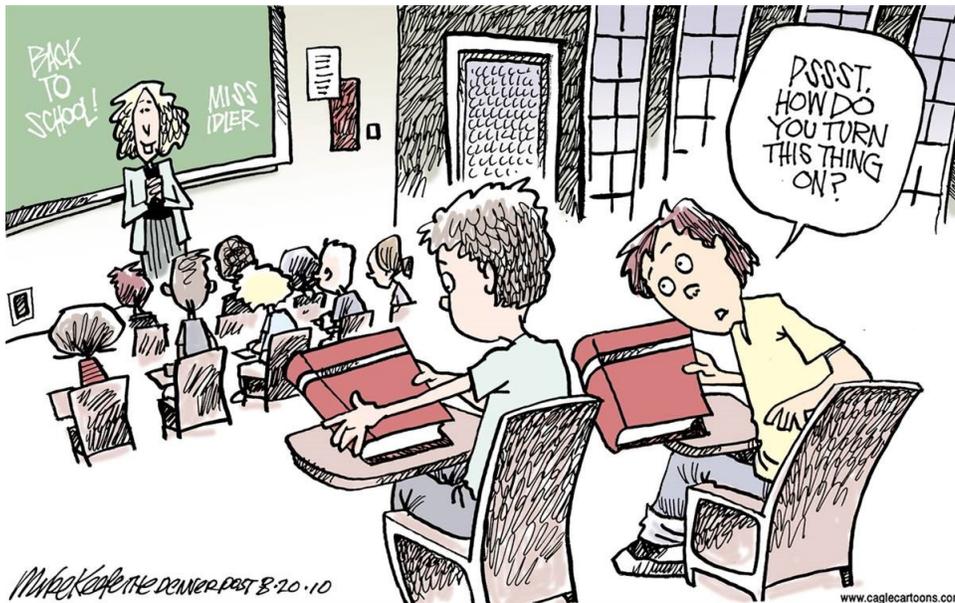
accounted for or addressed ahead of time. Fortunately we only had two widespread issues, and both are fixed. The Dell laptops at the High School didn't like the new access points, and a software update took care of that. The 1:1 laptops in grades 9-12 could not use Google at home and sometimes in school, and changing a setting in the Google Admin Console fixed that.

We do have a good deal of follow-up work to completely close out all of the projects, but it's now basically a punch list. We are working our way through those items and making good progress. The rest of this issue of the Tech Pulse goes into more detail on each project.

We wish everyone a happy and successful 2017-2018 School Year!

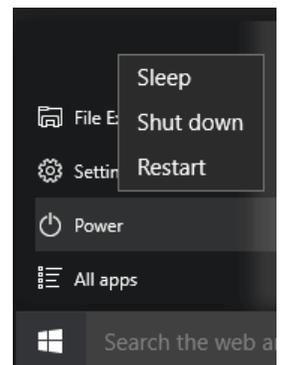
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Did you know?

It is important to properly shut down computers several times per week. Many processes only run when a computer shuts down and starts up, such as updating software and adjusting settings to work with other systems. Closing the lid is not enough, and holding the power button down to force it will cause problems. The proper way is to click on the Windows icon, click the power icon, and click Shut down.



1:1 Device Distribution

Of all of the projects that were done in the summer, the preparation and distribution of the 1:1 devices was the most time consuming. Each device had to be examined, imaged, sorted, and then distributed. With nearly 2,000 devices processed, the logistics alone were intense.

This year we decided to offer appointments for parents to pick up their 1:1 devices during the summer. We weren't sure how many would take advantage of this, and the demand was really encouraging. We offered two pickup days per week, with appointments at 15-minute intervals. The slots filled up almost immediately, and parents were asking for more. We added a few more days, but we were limited by the

amount of available staff. This is a sign that people are using the devices at home and see the value of them.

The 9th grade laptops were distributed at the 9th grade orientation on August 16. There was a delay in obtaining the licenses needed for the 6th grade Chromebooks, so the first batch of them weren't distributed until the second day of 6th grade orientation, which was August 21.

We offered one evening pickup opportunity on August 23. About 400 families attended. It took about 1.5 hours to get through everyone. That might seem like a long time, but last year it took about 2.5 hours, so we're getting more efficient.

Also new for this year, the agree-

ment form is now in Skyward. Families signed in with their accounts and filled out the forms electronically. We recorded the device they were issued and whether they paid the fee. The forms are associated with the students, so we can see at a glance who has agreed, who has paid, and which device each student has.

The amount of work that went into this one project delayed our progress in other areas, but it was important to prioritize 1:1 because it is so integral to everything now.

If students still do not have their devices, they need to have their parents fill out that form, submit their payment to the school office, and see their tech assistant for the device.

New Web Filter

In July, we installed a new web filter to replace the old Lightspeed filter. The new filter is called iBoss. It is capable of handling more traffic than the old system, and has several features that we need.

iBoss is capable of inspecting the contents of Google searches, unlike Lightspeed. When people type in search terms, iBoss examines the results and screens out inappropriate pictures and results.

Students are always looking for ways to get around filters, and iBoss can detect filter defeating software that students were using last year. When it notices someone trying to use psiphon3, for example, iBoss blocks all

Internet activity for that person for a period of several minutes.

Another nice feature is that iBoss applies filtering rules by username rather than by computer or wireless network. A student could log onto a staff computer and still receive student filtering, and vice versa.

One of the biggest issues with Lightspeed was that software had to be installed on every computer even if it was only used inside the network. Sometimes that software would mistakenly identify a computer as being offsite, and the computer would lose Internet access. With iBoss, that is no longer necessary, eliminating a big

source of problems.

We had one early problem in which iBoss and Google Admin Console were both forcing Safe Search, and students would receive an error that there were too many redirects. With Lightspeed, we had to have that set in the Google Console, but iBoss reliably forces safe searching, so the two systems were redirecting each other. Turning the Safe Search setting off in Google Admin Console fixed the issue, and iBoss is reliably screening search results.

We're very happy with iBoss, and are confident that it will keep our students safe for years to come.

Phone System Upgrade

Replacing the phone system has been a planned project for a couple of years. We had to put other priorities ahead of it, and this summer we were able to move forward.

The servers and software are all new, but it is still a Cisco system so the core functionality of making phone calls is the same. The biggest initial change is with voicemail.

We now have unified messaging, which means that voicemail messages are stored in email. The old phone system could have

done it too, but it wasn't possible with Novell and Gmail. Now that we have Active Directory and Outlook, we were able to tie the systems together. We no longer need to be at our phones to retrieve voicemail messages. We can be in other rooms, other buildings, or even offsite and listen to our messages right through our email. When you see one of those "Cisco Unity Connection Messaging System" emails, that is the actual voicemail message. You can double click on the attachment and the message will play with your default

audio player.

Another critical benefit is that we can once again purchase replacement phones. We went about two years without new phones because they weren't made for the old system anymore.

There are a few more things still to come in this project. We are going to implement a software client that interfaces with Outlook and the phones that allows us to instant message each other, see when people are available, and use our computers as phones.



Internet Service Upgrade

For several years the district has used the MCIU as our Internet Service Provider (ISP). On August 29, 2017, that changed. We switched over to Sunesys, the same company that provides the connections between the schools. With the change, we have a full gigabit of Internet bandwidth (1,000 megabits, roughly twice the amount we had before).

When we made the change, our external IP addresses changed too. If you are unfamiliar with the term, an IP address is like the Internet version of a mailing address. It is a unique identifier that tells the Internet where to

send packets of data, just like a mailing address tells the post office where to send envelopes.

That IP address change necessitated a bunch of other changes so the world knows we have a new address. We had to notify Microsoft so our email flows properly, Google so our integration with that suite continued to function, and a host of other services. Some other ISPs were a little slow to catch on, so for the next day we had some issues sending emails. We changed a setting the following night in email that fixed that.

The next step of this process is to change out our old firewall. Even though we have a gigabit of Internet bandwidth, the old firewall can only flow about half that. Since we planned the project, some new firewall technologies have been developed so we're going to look into those instead of simply replacing the old firewall with a newer model of the same thing.

The transition to Sunesys went according to plan, so we're happy with the results. When we do replace the firewall, we will see the full benefit of this project.



High School Wireless Upgrade

We've known for a year that the High School wireless system was not up to the task of handling the full demands of 1:1. Unfortunately technology is expensive, so we had to wait until money was available before we could address it. In the summer, we were able to tackle it.

All of the Access Points (AP's) in the High School have been replaced with the latest standard. In technical terms, the old system was built on the 802.11n standard, which could provide a maximum bandwidth of 300 meg-

abits. In the real world with interference and walls it is closer to 175 Mb. The new standard, 802.11ac Wave 2 (say that 5 times fast!) can provide over 1000 Mb. In the real world it's about 600—700 Mbs.

That's all very technical, but the main take-away is that the new system has over three times the amount of bandwidth of the old system, and can handle clients moving around the building much better than the old system.

We did run into one unforeseen issue with the new sys-

tem. The Dell laptops had a hard time connecting initially. When we checked compatibility lists, all of the equipment at the High School was certified by the manufacturers, but we still had a problem. We solved that by installing the latest software on the AP's and the system that controls them.

The MS and HS now have new wireless. We planned to get more AP's into Hereford and Marlborough but we ran out of time. We will do it during the school year.

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New Website

There has been a lot of communication regarding the new website, so this is a reminder of things that have already been announced, along with some things that are planned.

First, everything that is currently hosted on Google Sites needs to be moved to the new website. Much of that has already been done, but the teacher pages are still largely in Google Sites. Teachers have until the end of the 2017-2018 School Year to move that content to Finals site (or Schoology for the HS).

The administrative team was briefly trained in a crash course in August. Two trainings were scheduled for administrative assistants as well. The first one was held on September 5th, and the next is on September 21st. More can be scheduled if

needed.

Training for teachers will be held on October 20. Teachers will be shown how to create pages and manage content, with an emphasis on moving content from Google Sites to Finals site. Even if you don't have a website in Google Sites, you should still attend so you can see how to setup a page in Finals site.

One thing that made the old website difficult to navigate was all of the PDF files that were posted. The search feature of many websites will not search within PDFs, especially if they are scanned in. Therefore, on the new website we are limiting PDF files to only forms that must be printed and filled out, and flyers from the community.

The last point of emphasis is

the new Staff Portal. This is a password protected part of the website that contains links, forms, and information for UPSD staff. Use your normal computer username and password to log into it. Human Resources has created a page within the Staff Portal with a lot of very helpful HR information and forms. There is even a feedback form that you can use to suggest changes and additional information.

As you know from previous newsletters and countless emails, a tremendous amount of work went into the design and building of the new website. It is now a shared responsibility of everyone to keep the website current, well organized, consistent, and attractive.



Technology Ticket / Work Order System

Currently the District uses SchoolDude for technology help requests. The system is cumbersome and not user-friendly for anyone using it. Submitting tickets is a hassle, and the reports and tracking side is equally frustrating.

We are planning to investigate new solutions for technology tickets, and hope to make a change to a new vendor before the start of the

next school year.

We will use a similar approach to what we used for the website and phone system projects. We will identify our needs, examine several solutions, and choose the best fit for UPSD that meets our needs at a responsible cost.

Ticketing systems are always unpopular because they are so impersonal, but they really are an essential part of any

customer service process.

We need the data that those systems provide to make improvements and resource-allocation decisions. Please continue to use the current system for technical support requests. We can't address trends that we don't know about, and keeping track of technical support requests is a vital part of our continuous improvement. Thank you.